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## FROM SDG INVESTMENT MAPPING TO A BANKABLE PROJECT PIPELINE: MOBILIZING PRIVATE CAPITAL FOR SUSTAINABLE DEVELOPMENT IN SERBIA

Od SDG investicione mape do izvodljivog projektnog portfolija: mobilizacija privatnog kapitala za održivi razvoj Republike Srbije

### Abstract

The development of Serbia's SDG Investment Pipeline represents a structured effort to identify, evaluate, and promote investment-ready projects that simultaneously generate financial returns and contribute to the country's sustainable development priorities. Building on the UNDP SDG Investor Map, which identified strategic sectors and investment opportunity areas with the highest potential for sustainable investment, the Pipeline translates macro-level opportunities into concrete, assessable project propositions. The analysis applies a multi-phase methodology encompassing project sourcing, screening, scoring, and shortlisting. Starting from an initial universe of 150 potential investment projects derived from 13 Investment Opportunity Areas (IOAs) and additional "white spaces," a composite scoring model was developed to evaluate projects across three perspectives: investor (60%), public contribution (20%), and alignment with the Sustainable Development Goals (20%). Only projects achieving a minimum threshold of 60% in each perspective were included, resulting in a final portfolio of 44 investment-ready projects. The findings demonstrate that sustainability and profitability are not mutually exclusive. The paper concludes that structured SDG investment pipelines, grounded in investor logic and aligned with national strategic priorities, represent a critical instrument for mobilizing private capital, strengthening evidence-based policymaking, and accelerating long-term, inclusive, and sustainable growth in Serbia.

**Keywords:** *sustainable investment, SDG Investment Pipeline, private capital, investment readiness, scoring model, SDG impact*

### Sažetak

Razvoj investicionog portfolija projekata usklađenih sa ciljevima održivog razvoja u Republici Srbiji predstavlja strukturisani napor usmeren na identifikaciju, evaluaciju i promociju investiciono spremnih projekata koji istovremeno generišu finansijske prinose i doprinose ostvarivanju nacionalnih prioriteta održivog razvoja. Oslanjajući se na UNDP SDG investicionu mapu, koja je identifikovala strateške sektore i investiciona polja mogućnosti sa najvećim potencijalom za održiva ulaganja, investicioni portfolio prevodi razvojne prilike sa makro nivoa u konkretne, evaluabilne projektne predloge. Analiza primenjuje višefaznu metodologiju koja obuhvata identifikaciju projekata, preliminarno filtriranje, bodovanje i konačnu selekciju. Polazeći od početnog skupa od 150 potencijalnih investicionih projekata, izvedenih iz 13 investicionih polja mogućnosti i dodatnih tzv. „praznih prostora“, razvijen je višekriterijumski model ocenjivanja za ocenu projekata kroz tri perspektive: investitorsku (60%), javni doprinos (20%) i usklađenost sa ciljevima održivog razvoja (COR) (20%). U konačni portfolio uključeni su samo projekti koji su ostvarili minimalni prag od 60% u svakoj od navedenih perspektiva, što je rezultiralo portfoliom od 44 investiciono spremna projekta. Rezultati pokazuju da održivost i profitabilnost nisu međusobno isključivi ciljevi. Rad zaključuje da strukturirani SDG investicioni portfolio projekata, zasnovan na investitorskoj logici i usklađen sa nacionalnim strateškim prioritetima, predstavlja ključni instrument za mobilizaciju privatnog kapitala, jačanje kreiranja politika zasnovanih na dokazima i ubravanje dugoročnog, inkluzivnog i održivog rasta Republike Srbije.

**Ključne reči:** *održive investicije, investicioni portfolio projekata usklađenih sa COR, privatni kapital, investiciona spremnost, model ocenjivanja, COR uticaj*

## Introduction

The global slowdown in achieving the Sustainable Development Goals (SDGs) is increasingly attributed not to a lack of policy ambition, but to a persistent shortage of financing, particularly private capital. Despite growing awareness of environmental, social, and governance (ESG) principles, sustainability-oriented investments are still frequently perceived as cost-intensive and insufficiently profitable, which continues to constrain their scale and pace of implementation. Recent global assessments confirm that financing, rather than policy design, represents the primary bottleneck in SDG delivery. According to the United Nations, the global SDG financing gap for developing and transition economies exceeds USD 4 trillion annually, while private capital participation remains significantly below required levels [10]. In this context, public budgets alone are insufficient to close the gap, making private investment a structural necessity rather than a complementary option. At the same time, literature increasingly points to the absence of credible and standardized ESG-based measurement frameworks as a key barrier to mobilizing private capital, as investors require transparent, comparable, and decision-relevant sustainability metrics alongside financial performance indicators [5].

In the case of Serbia, macroeconomic and sectoral indicators further support the relevance of SDG-aligned private investments. According to the World Bank, Serbia's GDP amounted to approximately USD 100.05 billion in 2025, with investment contributing around 22-23% of GDP, a level below that observed in fast-growing EU convergence economies [2], [6]. This indicates substantial room for expanding productive investment, particularly in infrastructure, energy, and innovation-driven sectors.

Energy and climate statistics highlight both toggle risks and opportunities. Data from the Energy Community and the International Energy Agency show that roughly 65-70% of electricity generation in Serbia is coal-based, while renewable sources (excluding large hydropower) account for less than 10% of total electricity production [1], [3]. At the same time, Serbia has an average of 270 sunny days per year. Average solar radiation is 30%

higher than the radiation in Western Europe [11]. From a climate perspective, Serbia emits approximately 6 tons of CO<sub>2</sub> per capita annually, compared to an EU average of around 5 tons, underscoring both transition pressure and decarbonization potential [9]. These indicators reinforce the rationale for prioritizing renewable energy, energy efficiency, and low-carbon infrastructure within the SDG investment pipeline.

Healthcare and social statistics further justify the inclusion of health-related SDG projects. Public data indicate that Serbia allocates approximately 8% of GDP to total health expenditure, with out-of-pocket payments accounting for around 32% of total health spending [12]. Demographic trends show that nearly 30% of Serbia's population is older than 60, signaling growing demand for long-term care, geriatric services, and health infrastructure investments [8].

Taken together, these publicly available indicators confirm that Serbia faces structural development challenges that align closely with SDG priorities, while simultaneously offering economically attractive investment opportunities for private capital when projects are properly structured and de-risked.

In response, the United Nations Development Program introduced the SDG Investor Map as a global framework designed to align private investment with national development priorities. Serbia was among the first group of countries to adopt this methodology and subsequently became the first country globally to advance from an SDG Investor Map to a fully developed SDG Investment Pipeline.

This paper examines the transition from strategic investment mapping to a concrete portfolio of bankable projects. It focuses on the methodology applied, the structure of the scoring model, and the resulting investment portfolio, demonstrating how private investor logic can be successfully integrated with public and SDG objectives.

## From SDG Investor Map to Project Identification

The SDG Investor Map for Serbia, which provides the analytical foundation for the present study, was developed and presented in a previous paper titled *Potential for*

*Sustainable Investments in Serbia: SDG Investment Map* [4]. That study identified priority sectors and Investment Opportunity Areas (IOAs) aligned with national development priorities and the Sustainable Development Goals, serving as the conceptual and empirical starting point for the development of the SDG Investment Pipeline analyzed in this paper.

Serbia's SDG Investor Map was developed in accordance with the UNDP methodology and published on the global SDG Investment Platform, positioning Serbia among approximately 40 countries with a publicly available national SDG investment map.

The map identified 13 Investment Opportunity Areas (IOAs) across five sectors: Food and Beverage, Renewable Energy, Information and Communication Technologies, Infrastructure, and Healthcare. The estimated direct investment potential across these IOAs exceeds USD 8.3 billion over a 3-5-year horizon, representing a conservative estimate. When accounting for multiplier effects on GDP, employment, and induced investments, the total economic impact is estimated at up to USD 20 billion.

Within this framework, the Serbian SDG Investor Map further structured these IOAs into distinct business units, which form the basis for the portfolio presented in Table 1.

For an investment potential to qualify as an IOA, several methodological criteria and conditions must be met:

- the IOA should be attractive to potential private investors, both domestic and foreign, implying financial viability and profitability;
- the investment should align with one or more United Nations Sustainable Development Goals (SDGs);
- national and/or local strategic documents should explicitly identify the area as a priority for investment;
- the existence of proven business cases, such as functioning case studies or business models already implemented in Serbia.

Beyond the formally defined IOAs, additional “white space” opportunities were identified – areas with significant development potential that were not fully captured in the initial mapping exercise.

## Methodological Framework

The development of Serbia's SDG Investment Pipeline followed a structured, six-step methodological process designed to ensure transparency, consistency, and investor relevance throughout the project selection cycle.

First, a retrospective analysis of SDG-aligned investments implemented in Serbia during the 2020-2025 period was conducted in order to identify prevailing investment patterns, sectoral concentration, financing structures, and investor behavior. This step provided

**Table 1: Serbia SDG Investment Portfolio**

No.	Investment Opportunity Area (IOA)	Sector	Estimated investment potential in 5 years
IOA 1	Fresh fruit and vegetable primary production	Food & beverage	< USD 50 million
IOA 2	Organic agricultural production	Food & beverage	USD 50 million - USD 100 million
IOA 3	Decentralized solar energy generation	Renewables & Alternative energy	> USD 1 billion
IOA 4	Wind farms	Renewables & Alternative energy	> USD 1 billion
IOA 5	High-tech for agriculture production	Technology & Communications	< USD 50 million
IOA 6	Sophisticated software solutions	Technology & Communications	< USD 50 million
IOA 7	Waste management services	Infrastructure	USD 100 million - USD 1 billion
IOA 8	Port infrastructure	Infrastructure	USD 100 million - USD 1 billion
IOA 9	Energy-efficient residential housing	Infrastructure/Real estate	USD 100 million - USD 1 billion
IOA 10	Hospitality facilities	Infrastructure/Hospitality	USD 100 million - USD 1 billion
IOA 11	Medicine production and delivery	Healthcare	> USD 1 billion
IOA 12	Digital healthcare solutions and specialized medical services	Healthcare	< USD 50 million
IOA 13	Biotechnology development	Healthcare	USD 100 million – USD 1 billion
<b>Total IOA pipeline estimated</b>			<b>USD 8.30 billion or more</b>

Source: Authors

an empirical baseline for assessing market appetite and feasibility across different SDG-related sectors.

Second, a broad universe of potential SDG investment projects was identified, drawing on the Investment Opportunity Areas (IOAs) defined in the SDG Investor Map, additional “white space” opportunities, national and sectoral strategic documents, and consultations with private-sector stakeholders.

Third, a set of preliminary filtering criteria was defined to exclude projects that did not meet minimum requirements related to sustainability, regulatory feasibility, SDG Impact standards and basic investment logic. This step ensured that only conceptually viable and SDG-relevant projects advanced to the detailed evaluation phase.

Fourth, a multi-criteria scoring model was developed and applied to systematically assess shortlisted projects. The model is structured around three perspectives with a 60:20:20 weighting scheme:

- *Investor perspective (60%)*, encompassing financial viability and market indicators, such as capital intensity, expected returns, payback period, market size, scalability, and availability of skilled labor;
- *Public contribution (20%)*, capturing the broader economic and development effects, including impacts on GDP, employment generation, regional development, infrastructure utilization, and value-chain spillovers;
- *SDG impact (20%)*, assessing alignment with environmental, social, and governance objectives, including emissions reduction, resource efficiency, occupational health and safety, and broader social inclusion aspects.

Projects were required to achieve a minimum threshold of 60% in each of the three perspectives to qualify for inclusion in the SDG Investment Pipeline, thereby preventing trade-offs whereby strong performance in one dimension could compensate for weak performance in another.

Fifth, for all projects meeting the threshold criteria, standardized project scorecards were developed. These scorecards summarize key information relevant to investors,

including the business model, market potential, critical success factors, key risks and mitigation measures, and expected ESG impacts.

Finally, the SDG Investment Pipeline and corresponding scorecards were prepared for promotion to the investment community, with the objective of facilitating investor engagement, supporting due diligence processes, and accelerating the transition from project identification to investment realization.

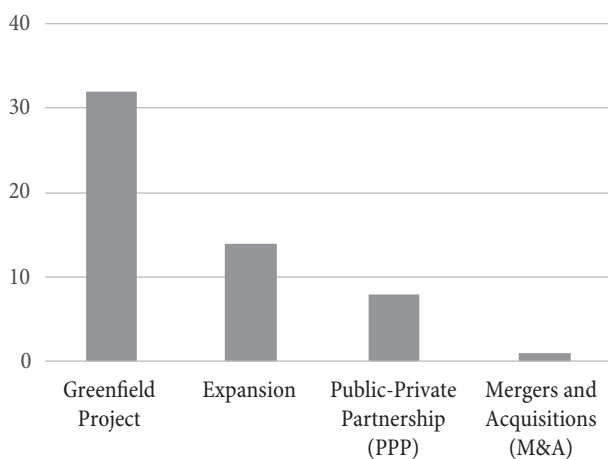
### Retrospective Analysis of SDG-Aligned Investments

As the first step in the development of the investment portfolio, a retrospective analysis of SDG-aligned investments in the Republic of Serbia was conducted for the period 2020-2025. A total of 55 investments directly aligned with the Sustainable Development Goals were identified, with an aggregate value of USD 9.2 billion. Of these, 31 projects have been completed, while 24 projects are currently under implementation, indicating a dynamic and expanding investment pipeline.

The analysis relies on publicly available data and should therefore be interpreted as a conservative approximation, as certain privately financed or non-disclosed projects may not be fully reflected.

In terms of investment type, the portfolio is strongly dominated by greenfield projects, which account for the largest share of identified investments (Figure 1). This structure reflects a development pattern primarily driven by new capacity creation rather than consolidation or

**Figure 1: Number of Investments by Type (2020-2025)**



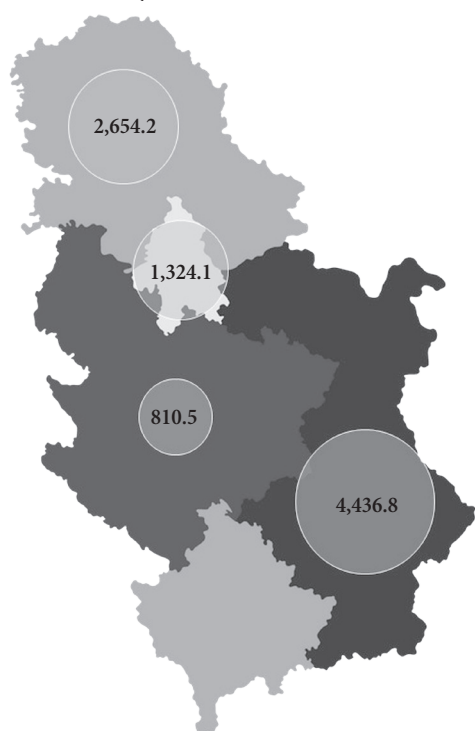
Source: Authors

acquisition of existing assets. Expansion projects represent the second most frequent category, indicating a moderate level of scaling of already established activities. Public-private partnership (PPP) projects are present but remain relatively limited in number, suggesting that this financing and implementation model is still underutilized in the Serbian investment landscape. Finally, mergers and acquisitions are almost absent, with only one identified transaction, underscoring the limited role of corporate consolidation in SDG-aligned investment activity during the observed period.

The regional allocation of investments reveals a strong concentration in Eastern and Southern Serbia, followed by Vojvodina and the Belgrade region (Figure 2). In contrast, Western Serbia accounts for only USD 810 million of total investment value, which was identified as a region with significant potential for enhanced promotion and investor outreach.

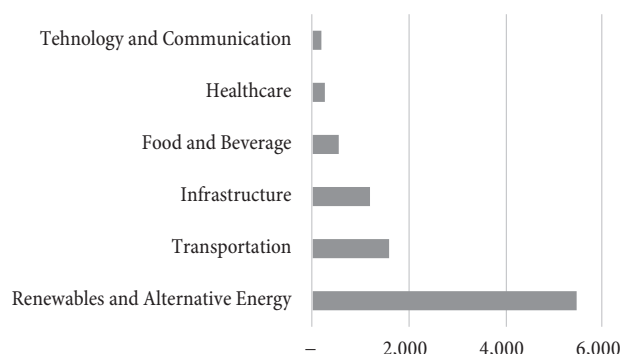
The sectoral composition of investments demonstrates a clear dominance of renewable energy, with total investments amounting to USD 5.5 billion, primarily in wind and solar power projects (Figure 3). Transportation, particularly e-mobility, represents the second most significant sector,

**Figure 2: Geographical Distribution of Investments by Value (2020-2025)**



Source: Authors

**Figure 3: Sectoral Distribution of Estimated Investment Value (million USD, 2020-2025)**



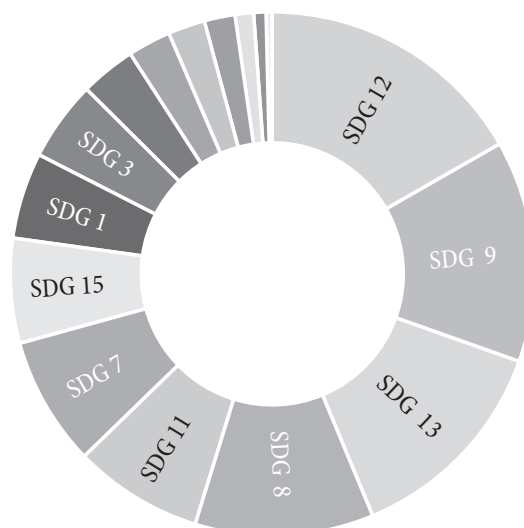
Source: Authors

with investments totaling USD 1.6 billion. With respect to investor origin, China emerges as the leading source of capital, accounting for USD 3.7 billion in investments. Domestic private capital contributes only 5% of the total value (USD 470 million), although it should be noted that part of domestic investment is channeled through companies registered abroad.

The analysis further indicates that the most frequently targeted SDGs (Figure 4) are SDG 9 (Industry, Innovation and Infrastructure), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

Taken together, the retrospective analysis provides strong empirical evidence that SDG-aligned investments in Serbia are not only feasible but already materializing at scale, particularly in capital-intensive sectors such as

**Figure 4: Frequency of Alignment of Investments with the SDGs (2020-2025)**



Source: Authors

renewable energy and sustainable transport. At the same time, the findings reveal structural imbalances in terms of regional distribution, sectoral diversification, and the limited participation of domestic private investors. These insights underscore the need for a more structured, project-oriented approach that moves beyond aggregate investment trends and focuses on identifying, prioritizing, and promoting investment-ready projects. In this context, the retrospective analysis serves as a critical empirical foundation for the subsequent development of the SDG Investment Pipeline and the application of a systematic scoring and prioritization framework.

Building on the insights from the retrospective analysis and the SDG Investor Map, an initial universe of 150 potential SDG-aligned investment projects was identified and subsequently subjected to a preliminary eligibility screening. Projects that did not meet minimum criteria related to baseline feasibility, SDG relevance, and conceptual coherence were excluded, resulting in a refined list of 91 projects eligible for detailed multi-criteria evaluation.

### Scoring Model and Project Selection

Based on the refined list of 91 shortlisted projects, a detailed multi-criteria scoring model was developed to enable systematic, transparent, and comparable evaluation of investment proposals. The scoring framework is structured around three complementary perspectives, applied using a 60:20:20 weighting scheme, reflecting the central role of private investor decision-making while explicitly integrating public interest and SDG considerations.

The investor perspective (60%) captures the commercial attractiveness of each project and is divided into financial and market-related indicators. Financial criteria include capital expenditure (CAPEX), internal rate of return (IRR), net present value (NPV), payback period, and profitability index, allowing for a standardized assessment of expected financial performance and risk-adjusted returns. Market criteria assess the size and growth dynamics of the relevant market, the degree of market saturation and competitive intensity, scalability and replicability potential, as well as the availability and qualification of the workforce – factors

frequently identified by investors as critical determinants of investment feasibility.

The public contribution perspective (20%) evaluates the broader economic and development effects of each project within the national context. This includes estimated multiplier effects on gross domestic product (GDP), direct and indirect employment generation, utilization and development of infrastructure, regional development impacts, and the potential to attract complementary investments along the value chain. In addition, this perspective assesses alignment with national development priorities, drawing on an extensive review of more than 170 national, sectoral, and regional strategic documents.

The SDG impact perspective (20%) focuses on environmental, social, and governance (ESG) dimensions, assessing the extent to which projects contribute to sustainable development outcomes. Key indicators include greenhouse gas emissions and CO<sub>2</sub> footprint, energy consumption and resource efficiency, occupational health and safety standards, workforce diversity and female participation, as well as governance practices related to transparency, risk management, and stakeholder engagement.

To ensure methodological rigor and avoid trade-offs across dimensions, projects were required to achieve a minimum threshold of 60% of the maximum attainable score within each of the three perspectives. This condition prevented projects with strong financial performance but weak public or SDG contributions – or vice versa – from entering the final portfolio. Application of the scoring model resulted in the selection of 44 investment-ready projects, which constitute the SDG Investment Pipeline.

Within this framework, the structure of the multi-criteria scoring model, including perspectives, indicator groups, and their respective weights, is presented in Table 2.

The scoring model was operationalized through a dedicated scoring manual developed to ensure consistency, transparency, and comparability across all evaluated projects. The manual defined each evaluation indicator in detail, including its rationale, measurement logic, scoring scale, and threshold values. For each indicator, explicit criteria were established specifying which score was assigned to a given quantitative value or qualitative assessment, thereby minimizing subjectivity in the evaluation process.

Table 2: Structure of the SDG Investment Scoring Model and Weighting Scheme

Perspective	Category	Indicator	Weight (%)	Value	Score (1-5)	Weighted score
Investor perspective (60%)	Financial indicators	Payback period	6.0%		0	0
		NPV	9.0%		0	0
		Profitability index	4.0%		0	0
		ROI	5.0%		0	0
		CAPEX	5.0%		0	0
		Cost of equity	6.0%		0	0
	Market and risk exposure	Market potential	5.0%		0	0
		Industry risk	2.0%		0	0
		Revenue concentration risk	4.0%		0	0
		Supply chain dependency	2.0%		0	0
		Availability of workforce (quantity, quality and qualification)	4.0%		0	0
		Possibility of failure to deliver impact	4.0%		0	0
		Possibility of negative externalities	4.0%		0	0
Public perspective (20%)	Economic and regional impact	GDP multiplier effect	5.0%		0	0
		Infrastructure development	3.0%		0	0
		Sectoral shifts	4.0%		0	0
		Attraction of complementary industries	4.0%		0	0
		Basic monitoring intent	4.0%		0	0
SDG perspective (20%)	Social and gender impact	Occupational health and safety	1.5%		0	0
		Workforce diversity	1.5%		0	0
		Probability of female engagement	1.5%		0	0
		Direct job creation potential	1.5%		0	0
		Quality of employment	1.5%		0	0
	SDG compliance	Number of SDGs accomplished	1.0%		0	0
		Long-term sustainable impact	3.0%		0	0
		Impact built into design	1.5%		0	0
		Impact risk recognition	1.5%		0	0
		Stakeholder consideration	1.5%		0	0
Environmental impact	Environmental footprint	2.0%		0	0	
	Energy consumption level	1.0%		0	0	
	Level of greenhouse gas emissions	1.0%		0	0	
<b>Total score</b>			<b>100%</b>		<b>0</b>	<b>0</b>

Source: Authors

Each project was assessed against all indicators using a standardized scoring scale. Indicator-level scores were multiplied by their respective weights to calculate weighted scores, reflecting the relative importance of individual indicators within each evaluation perspective. Weighted scores were then aggregated at the perspective level and across perspectives to derive a total project score.

To enable comparability across projects and perspectives, the aggregate score for each project was normalized and expressed as a relative value on a 0-100%

scale. This normalization allowed for transparent ranking and facilitated the application of minimum threshold requirements within each evaluation perspective. Only projects achieving the predefined minimum score in all three perspectives were considered eligible for inclusion in the final SDG Investment Pipeline.

The computational logic of the scoring model is formally expressed through a set of simple aggregation and normalization equations. At the indicator level, the weighted score was calculated as the product of the assigned

score and the predefined indicator weight. Perspective-level scores were obtained by summing weighted indicator scores within each perspective. Given that all indicators were evaluated on a standardized 1-5 scale, minimum and maximum possible scores for each perspective were clearly defined, enabling normalization of perspective scores to a 0-100% scale.

The final project score was then computed as a weighted average of the normalized perspective scores, applying the predefined perspective weights (60% investor perspective, 20% public contribution, and 20% SDG alignment). This approach ensured full transparency of the scoring process, allowed for direct comparability across projects, and supported the application of clear inclusion thresholds within the SDG Investment Pipeline.

The scoring and aggregation procedure is formally defined by the following equations.

- $s_i$  = score for indicator (1-5)
- $w_i$  = weight of indicator (in %)
- $W$  = sum of weights in a perspective (in %)
- $j$  = perspective (Investor, Public, SDG/ESG)

(1) Weighted score per indicator

$$WS_i = s_i \times w_i$$

(2) Perspective score (sum of weighted scores)

$$S_j = \sum_i WS_i$$

(3) Normalize perspective score to 0-100%

Because scores are on a 1-5 scale, the minimum and maximum possible values for a perspective are:

$$S_j^{min} = 1 \times W, S_j^{max} = 5 \times W$$

Then:

$$S_j^{\%} = \frac{S_j - S_j^{min}}{S_j^{max} - S_j^{min}} \times 100$$

(4) Total project score (0-100%)

Using perspective weights (Investor 60%, Public 20%, SDG/ESG 20%):

$$S_{total}^{\%} = 0.60 \cdot S_{Investor}^{\%} + 0.20 \cdot S_{Public}^{\%} + 0.20 \cdot S_{SDG}^{\%}$$

(5) Inclusion rule (threshold)

$$S_{Investor}^{\%} \geq 60, S_{Public}^{\%} \geq 60, S_{SDG}^{\%} \geq 60$$

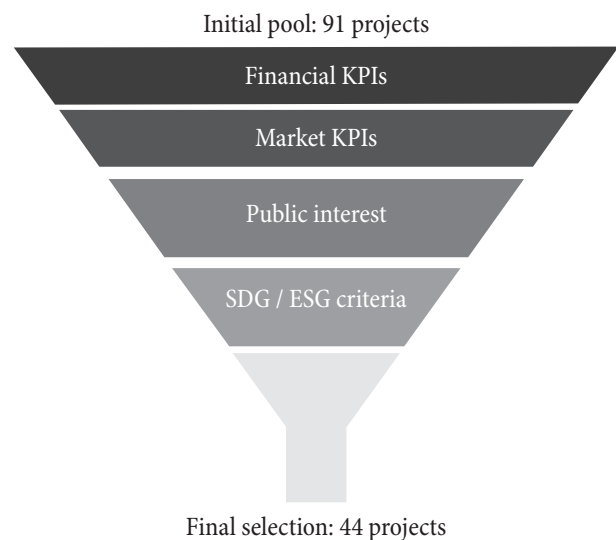
The application of the scoring model followed sequential, funnel-based logic, as illustrated in Figure 5. Starting from an initial corpus of 91 shortlisted projects, candidates were progressively assessed across financial and market performance indicators, public interest considerations, and SDG/ESG criteria. Each layer of evaluation applied minimum threshold requirements, ensuring that only projects demonstrating balanced performance across investors, public, and sustainability dimensions advanced to the next stage. This structured filtering process resulted in a final portfolio of 44 investment-ready projects, reflecting both methodological rigor and strategic selectivity.

To operationalize the final portfolio, standardized project scorecards were prepared for all 44 projects, providing investors with structured, comparable, and investment-ready project profiles.

### Composition of the Final SDG Investment Portfolio

The final SDG Investment Pipeline consists of 44 investment-ready projects across six priority sectors, reflecting both Serbia’s established comparative advantages and emerging opportunities for sustainable growth. The portfolio intentionally combines mature, scalable business models with more innovative investment concepts capable of supporting long-term structural transformation.

**Figure 5: Funnel-Based Application of the SDG Investment Scoring Model**



Source: Authors

Table 3 presents an overview of the shortlisted projects and summarizes their performance across the three evaluation perspectives.

Taken together, the selected projects form a coherent investment narrative, addressing key development priorities through support for the green energy transition,

**Table 3: Final SDG Investment Pipeline Portfolio**

Investment project	Investor perspective score (60%)	Public perspective score (20%)	SDG perspective score (20%)
Solar farms	90%	97%	92%
Scaling regenerative farming practices	91%	87%	91%
Biomedical waste management	86%	96%	95%
Wind farms	85%	91%	91%
Food waste management	85%	81%	95%
Sanitization and rehabilitation of wild landfills and illegal dumpsites	83%	87%	92%
Agrivoltaics: Dual-use solar farms with agricultural production	78%	91%	94%
Treatment of municipal waste	80%	87%	90%
Spa tourism development	83%	80%	85%
Regional vegetable processing facility	81%	82%	86%
Hybrid power park	78%	85%	91%
Real estate green smart development	84%	76%	76%
Carbon-storing concrete facility	73%	91%	91%
Medical device component production center	78%	88%	78%
Multimodal river port expansion	70%	96%	87%
Organic crop production	77%	73%	86%
Sustainable pharmaceutical manufacturing hub	73%	88%	82%
Electric vehicle component industrial park	72%	81%	89%
Blockchain farm-to-fork traceability	77%	72%	84%
Personalized medicine manufacturing hub	67%	97%	88%
PCE dragline system	76%	74%	76%
Eco-bricks made from plastic waste	71%	79%	85%
Autonomous livestock management system	77%	72%	75%
Plastic roads	68%	96%	75%
Modular agricultural robot	74%	81%	71%
Geothermal power plant	68%	87%	80%
Smart irrigation systems	71%	78%	82%
Sustainable packaging solutions	72%	77%	75%
Drone manufacturing for agricultural	75%	73%	70%
Construction & demolition waste recycling facility	70%	79%	78%
Hydroponics farms	72%	72%	77%
Energy-from-waste incineration plant	72%	75%	72%
Regional fertilizer production plant	75%	70%	68%
Aquaponics farms	71%	64%	85%
Passive solar greenhouses for year-round growing	71%	61%	75%
Wastewater treatment facility	62%	80%	78%
Elderly care homes	65%	73%	76%
Water leak detection sensors	68%	65%	75%
Urban hotel development	67%	72%	69%
Mountain resort hotel	65%	76%	72%
Atmospheric water generators (AWG)	63%	69%	78%
Rehabilitation centers for psychophysical health	68%	64%	68%
High-precision pharma packaging facility	63%	69%	76%
Solar-powered irrigation systems	65%	61%	79%

Source: Authors

modernization of agri-food systems, deployment of technology-driven efficiency gains, mitigation of infrastructure and environmental gaps, strengthening of healthcare system resilience, and the positioning of Serbia within future-oriented mobility systems.

### Project Scorecards

To operationalize the results of the scoring and selection process, a standardized project scorecard was developed for each of the 44 projects included in the final SDG Investment Pipeline. These scorecards serve as structured, investor-oriented project profiles, translating the outcomes of the multi-criteria evaluation into a concise and comparable format suitable for investment assessment and promotion.

Each scorecard was completed using a predefined and standardized set of analytical questions, ensuring methodological consistency and sufficient depth of evaluation across all projects. The structure of the scorecards mirrors the three core perspectives applied in the scoring model,

thereby preserving coherence between project evaluation and project presentation.

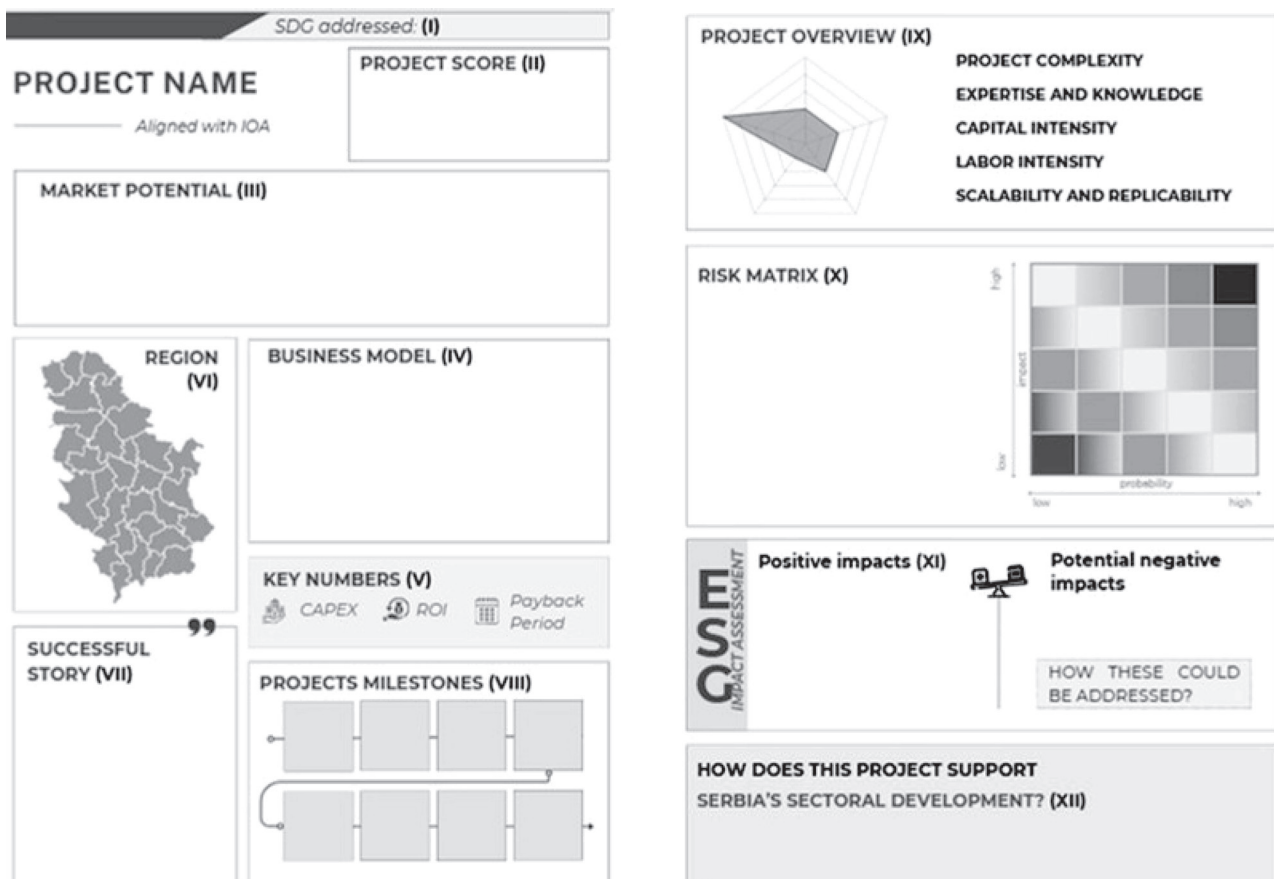
Figure 6 presents an illustrative example of a standardized project scorecard used in the SDG Investment Pipeline. The scorecard summarizes key information across investors, public contribution, and SDG perspectives, demonstrating how the results of the scoring process are translated into an investment-ready project profile.

Each field of the project scorecard is systematically aligned with the investor, public contribution, or SDG perspective, thereby maintaining methodological consistency between project evaluation and project documentation.

Figure 7 demonstrates the mapping of project scorecard fields to the investor, public contribution, and SDG perspectives applied in the scoring model.

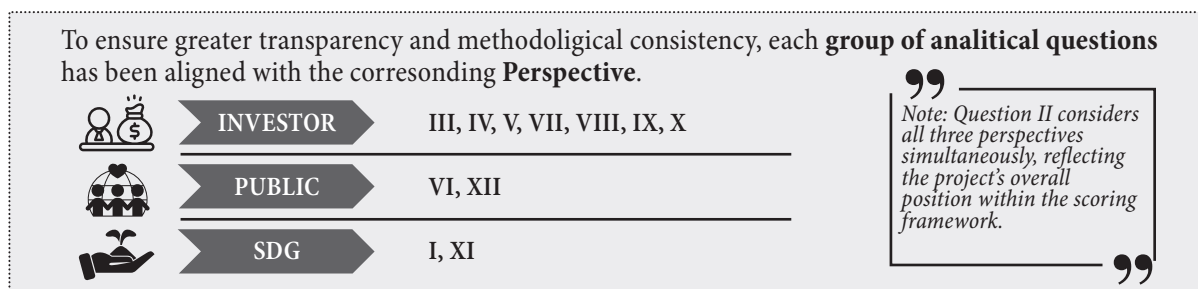
From the *investor perspective*, scorecards address key questions related to Serbia’s comparative advantages and sectoral market potential, the nature of the investment and proposed business model, expected financial performance, development stage, capital and labor intensity, scalability,

Figure 6: Example of a Project Scorecard



Source: Authors

Figure 7: Alignment of Project Scorecard Fields with Evaluation Perspectives



Source: Authors

and replicability. In addition, priority investment risks are identified, together with their probability, potential impact, and proposed mitigation measures.

The *public contribution perspective* captures the broader development relevance of each project, including locational advantages, alignment with national and sectoral strategic priorities, regulatory fit, and expected contributions to GDP growth, employment generation, and long-term sectoral sustainability.

The *SDG perspective* assesses the project's contribution to specific SDGs, the presence of synergies across multiple SDGs, and expected environmental, social, and governance effects. This includes both positive impacts and potential negative externalities, as well as design features and operational practices intended to mitigate risks and enhance sustainability outcomes.

Taken together, the scorecards provide a holistic and balanced view of each project, highlighting strengths, potential weaknesses, and overall investment readiness. By combining quantitative indicators with structured qualitative assessment, the scorecards function as project IDs that enable investors to rapidly understand project fundamentals, compare opportunities across sectors, and identify projects suitable for further due diligence and feasibility analysis.

In this way, the project scorecards bridge the gap between strategic project selection and practical investment decision-making, transforming the SDG Investment Pipeline into an actionable, investor-ready portfolio.

## Discussion

The findings of this study challenge the persistent narrative that investments aligned with environmental, social, and

governance (ESG) principles are inherently less profitable or insufficiently bankable. The empirical evidence generated through the construction of Serbia's SDG Investment Pipeline suggests that sustainability-oriented projects can exhibit strong financial performance while simultaneously reducing operational and regulatory risks. In particular, projects with clear ESG integration tend to benefit from improved risk profiles, enhanced resilience to policy and market volatility, and better access to finance, including sustainability-linked lending instruments and blended finance structures.

A key insight emerging from the analysis is the importance of shifting from abstract opportunity mapping toward concrete, project-level investment propositions. While SDG Investor Maps are effective tools for identifying priority sectors and investment themes, private investors consistently express a preference for clearly defined, investment-ready projects with transparent business models, identifiable risks, and articulated mitigation strategies. The pipeline approach directly responds to this demand by translating macro-level opportunity areas into standardized project profiles supported by quantitative and qualitative assessment.

In this context, the relevance of structured SDG investment pipelines is particularly pronounced in small and open economies, where sustainability-oriented investments can serve as key drivers of competitiveness and structural transformation when embedded within coherent strategic and institutional frameworks [7].

Furthermore, the application of a multi-perspective scoring model highlights the value of balanced evaluation frameworks that prevent trade-offs between financial viability, public interest, and sustainability impact. By requiring minimum performance thresholds across all

three dimensions, the pipeline avoids the inclusion of projects that are financially attractive but weak in terms of development contribution, as well as projects with strong public or SDG relevance but limited investor appeal. This design choice enhances the credibility of the pipeline both for private investors and public stakeholders.

At the same time, the analysis reveals structural gaps that merit further attention, including regional imbalances in investment allocation and the relatively low participation of domestic private capital. These findings underscore the need for complementary policy instruments and targeted investor engagement strategies to ensure that the benefits of SDG-aligned investments are more evenly distributed and locally anchored.

## Conclusion

The development of Serbia's SDG Investment Pipeline demonstrates that sustainable development objectives and private sector profitability are not mutually exclusive but can be mutually reinforcing when supported by a structured, investor-oriented framework. By integrating investor logic, public policy priorities, and SDG impact into a single evaluation architecture, the pipeline offers a pragmatic mechanism for mobilizing private capital toward nationally relevant sustainability outcomes.

Importantly, the pipeline moves beyond the identification of investment potential and addresses a critical bottleneck in SDG financing: the lack of investment-ready projects that meet both market expectations and development objectives. The use of standardized scorecards and transparent scoring criteria enhances comparability, reduces information asymmetries, and lowers transaction costs for investors considering entry into new or unfamiliar sectors.

Nevertheless, project identification and prioritization represent only an intermediate step in the investment lifecycle. To translate pipeline visibility into realized investments, targeted support mechanisms remain essential. These include technical assistance for feasibility studies, regulatory facilitation and permitting support, and assistance with financial structuring and access to appropriate financing instruments. Without such follow-up

measures, even well-designed pipelines risk remaining aspirational rather than transformational.

Overall, the Serbian experience provides a replicable and adaptable blueprint for other countries seeking to bridge the SDG financing gap through structured, evidence-based, and investor-focused approaches. By combining methodological rigor with practical investment logic, SDG investment pipelines can play a critical role in accelerating sustainable, inclusive, and long-term economic growth.

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